PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF
WARFIELD T. LONGCOPE, M.D.,
DIRECTOR OF THE AYER CLINICAL LABORATORY, PENNSYLVANIA HOSPITAL.
ASSISTED BY
G. CANBY ROBINSON, M.D.
RESIDENT PATHOLOGIST, PENNSYLVANIA HOSPITAL, PHILADELPHIA.

A Contribution to the Study of Immunity against Tuberculous Infection.—METALNIKOFF (*Cent. f. Bakt. und Parasitk.*, 1906, Bd. xxxxi, p. 391), in former studies upon tuberculosis of the bee-moth or wax-moth, has shown that this insect possesses a distinct immunity against tuberculosis of man, cattle, and birds. Since the caterpillar of the bee-moth feeds upon the wax of the bee-hive, it was thought that the explanation for this immunity was to be found in the fact that the waxy capsule of the tubercle bacillus was dissolved in the body of the caterpillar. It was found, however, that against the bacillus of fish tuberculosis the caterpillar exhibited no immunity. If the infection was rapidly fatal the leukocytes of the caterpillar contained practically no bacilli, but when slightly virulent strains were employed, phagocytosis was much more marked, and dead bacilli were rapidly made way with. This important property of the bee-moth caterpillar to dissolve the waxy capsule of the tubercle bacillus was tested still further by injecting an emulsion of the wax recovered from the tubercle bacillus into the insect. Two to three hours after the injection large cells were seen in the body cavity containing wax, while after one to two days the wax had been entirely dissolved. Basing a theory of immunity upon these observations, Metalnikoff treated a small series of guinea-pigs, which had been given fatal doses of an emulsion of tubercle bacilli, with a preparation of the bodies of the bee-moth caterpillar, and found that by this means he could produce a definite passive immunity in the animals. But the difficulties encountered in the preparation of this protective extract led him to attempt the production of an anti-substance by the injection of the wax of tubercle bacilli into animals. With this serum he has been able, so far, to prolong the life of two tuberculous guinea-pigs for several weeks over the controls.

The Retention of Tubercle Bacilli at the Portal of Entry of Infection.—BAUMGARTEN (*Verhandl. d. Deut. Path. Gesell.*, 1905, *Cent. f. allg. Path. und path. Anat.*, 1906, Bd. xvi, Ergänzungsheft, p. 5), contrary to certain recent investigators, has found in his experiments that tubercle bacilli do not enter the body without producing a lesion at the point of infection. Animals fed with milk containing tubercle bacilli always developed an intestinal tuberculosis together with the general infection. He noticed that if the infection was rapidly fatal the lesions in the intestines, which were confined almost exclusively to the lymphoid tissue, were exceedingly small, though widespread and only to be demonstrated in sections; while the tuberculosis of the mesenteric lymph nodes was much more advanced and appeared to be of longer duration. When the animals lived, however, for a few weeks then autopsy showed the most widespread tuberculosis of the intestinal tract. He explains this by assuming that the tubercle bacilli, though widely spread through the intestinal wall, do not occur in any one place in great numbers, while in the lymph nodes they are concentrated into a small space and here, on account of their greater numbers, produce in the same length of time, a more extensive lesion than in the intestinal wall. As in feeding tuberculosis, so in infection by aspiration, he could not discover that lesions developed in the bronchial lymph nodes without tuberculosis of the trachea or lungs. He, therefore, concludes that tubercle bacilli do not gain entrance to the lymphatics or blood stream without producing a lesion at the site of primary infection.

Lymphomatosis of the Salivary and Lacrymal Glands.—MINELLI (*Virchow's Arch.*, 1906, Band clxxxv, p. 117) describes a bilateral tumor of the parotid gland, of lymphomatous character. The growth occurred in a woman aged twenty-eight years. Similar growths have been described by several observers in both the salivary and the lacrymal glands. The growth was composed principally of lymphoid tissue, which the author believes arose from small lymph follicles that are known to exist normally in the parotid gland. By the growth of these follicles, many of which had proliferating germinal centres, the parotid tissue was compressed, atrophied, and destroyed. During this process, the cells of the gland acini tend to form giant cells that might be seen about the periphery of the growth. In Minelli's case eosinophilic leukocytes were present in great number in the boundary zone. Finally, the lymphoid tissue is replaced by a growth of connective tissue. Minelli discusses the possible relationship between these tumors and the lymphomas of pseudoleukemia. Among thirty published cases two are reported in which there was a general pseudoleukemia.

Degeneration of the Liver following Necrosis of the Pancreas.—RUDOLPH (*Deut. Arch. f. klin. Med.*, 1906, Bd. lxxxvii, p. 1), one of Hoppe-Seyler's students, reports an interesting type of degeneration of the liver found in association with necrosis of the pancreas. The patient was a woman, aged forty years, who had suffered for some time with chronic endocarditis. Late in her illness she developed jaundice, and the liver, which before had been large and hard, became softer and smaller. Bile was present in the stools. The urine did not contain sugar, acetone, leucin, or tyrosin. At autopsy the liver was congested, but showed besides small yellow areas and was jaundiced; the pancreas macroscopically appeared normal. Autolysis of the liver, as tested by allowing small pieces to digest under toluol in the thermostat, progressed very rapidly. Microscopic examination of the liver showed, besides a typical chronic congestion, areas of necrosis which were arranged about the peripheries of the lobules. In these areas the liver cells were completely destroyed, though the contour was often retained. The cells were laden with bile pigment. Most of the necroses were absolutely free from any inflammatory reaction, though a few showed leukocytes heaped up about the periphery. Microscopic studies of the pancreas revealed great numbers of necroses which were of much the same